VI. *A Second Letter from Mr.* Antony Van Leeuwenhoek, *F. R. S. to* John Chamberlayne, *Eſq; F. R. S. upon the ſame Subject as the former.*

SIR,

SINCE the Communicating to You my laſt Thoughts and Obſervations concerning Razors ſome Weeks ago, I have often view'd the Hairs of my Chin with a Microſcope after they were cut off, and always obſerved upon the White or Grey Hairs the Streaks which are made by the ſmall Notches that, as I told you in my former, I had diſcover'd in my Razor, eſpecially when thoſe Hairs were Cut more obliquely than uſual; for in ſuch Hairs I have often ſeen above twelve Streaks, occaſion'd by ſo many Notches that were in the Razor, all within the Compaſs of a Hair's breadth.

Becauſe I would not truſt wholly to my own Judgment, I cauſed a Man of good Underſtanding to view ſeveral Hairs through a Microſcope; and I ask'd him, how many little Streaks he obſerved in the Cut of one of thoſe Hairs? Who anſwer'd me, Twelve.

Among ſome of thoſe little Hairs I had ſhav'd off my Chin, I diſcover'd ſeveral whoſe Roots were intire, but cou'd not perceive that they had been touch'd by the Razor: this ſeemed to me at firſt very ſtrange, becauſe I had always imagin'd, that the Hair of the Head and Face did not change or fall off, like that of other Parts of the Body. But I conſider'd how much the Skin is ſoftned by warm Water and hard rubbing, and that the Notches in the Razor, which by reaſon of their ſmallneſs eſcaped the naked Eye, when they meet with ſuch Hairs, are not capable of Cutting off the Hair, but rather tear it out by the Root; which alſo may be the Cauſe of the Pain or Smart that one feels, when one is ſhaved with an indifferent Razor. I view'd ſome of thoſe little Hairs that had the Roots on, and obſerved the ſides of them to be a little Tore or Mangled; which I ſuppoſe might be occaſion'd by the Notch of the Razor, that had laid hold of the Hair in that Part, and ſo pull'd it out.

I have moreover buſy'd my ſelf in obſerving the Muſcles of the Cod-fiſh, and obſerved that none of the ſmall Particles, that compoſe the ſaid Muſcles, were thicker than the ſingle Hair of a Man's Chin; but they were of ſeveral ſizes, ſome of them being not half ſo big as others. When the Parts of the Fiſh were dry, I cut ſome of theſe Muſcles acroſs with a Razor, which I ſet and prepared after the manner mention'd in my former Letter; and I obſerved in ſome of thoſe Muſcles ſo cut, as many ſmall Streaks as there were Notches (inviſible indeed to the naked Eye) in the aforeſaid Razor, inſomuch that we who obſerv'd it were amazed at it:

it. And as every Particle of the Muſcle of the aforeſaid Fiſh is compoſed, as I have formerly obſerved, of an unſpeakable number of long ſlender Particles, ſo every little Notch of the Razor, did not only make a little Streak in the Muſcle, to which it was apply'd, but alſo cauſed ſuch a Roughneſs in it, that one might diſcover the exceeding ſlender Particles, of which one of the long Particles, no thicker than a courſe Hair, is compoſed: Notwithſtanding that the ſmall long Particles, dry'd up ſo quick, that one ſhou'd have taken them for a ſolid Body.

For my further ſatisfaction, I ſent a clean Towel to a Burgher of this Place, who being about Fifty Years old, had grey Hairs on his Chin, intreating him that when he was next Shav'd, he wou'd let his Barber wipe the Razor upon the ſaid Towel.

Having viewed ſome of theſe Hairs thro' my Microſcope, I diſcover'd the Streaks that the Razor had made therein, as plainly as thoſe which I mentioned before of my own, although the ſaid Burgher told me, that he had not been ſhaved in a long time ſo ſoftly and eaſily as then.

I obſerved in the ſaid Hair a great many little ones whoſe Roots were compleat; and amongſt a great many of them of different Figures, I obſerved one Hair that had three ſides with roundiſh Angles, and that all the three ſides bended inwardly.

I ſent another Towel to another Burgher of about Sixty Years, to the end that I might likewiſe obſerve his Hairs; in which alſo I diſcover'd the little Streaks occaſion'd by the Notches of another

Razor,

Razor, but with this Difference, that the Streaks in the laſt Hair were finer than the former, which I only attribute to the laſt Razor's being ſet upon a better Hone: Among theſe Hairs alſo I found ſome that had their compleat Roots. I ſhall conclude here, and remain,

Honoured Sir,

Delft, Nov. 22. 1709.

Your moſt Humble Servant,

Antony van Leeuwenhoek.

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